

A history of Harris Lebus 1840-1947 - unpublished manuscript by L.S. Lebus, 1965

FOREWARD

The following pages set down the story of the origin and growth of the Firm of Harris Lebus until it became a Public Company in July 1947.

It will be abundantly clear to those who read it that the writer is no journalist. However, it is an honest attempt to put on record material from which a more gifted writer can produce history worthy of the subject.

I must express my gratitude to my cousin, Louis H. Lebus, who helped to clear my mind on some of the early years; to Professor J. L. Oliver of L.C.C. Shoreditch Training College, Egham, Surrey, for details of his research into the Furniture Industry in London in the latter half of the 19th Century; to many employees, both past and present, for a host of notes at various periods and, not at least, Doris Middleton, my personal secretary for a great many years, but for whose help I could not have completed this history.

A handwritten signature in black ink, appearing to read 'L. S. Lebus', with a long horizontal flourish extending to the right.

L. S. Lebus - November 1965

Louis Lebus, father of Harris Lebus and Sol Lebus, came to this country from Breslau, Germany, arriving in Hull in the 1840s, and set up as cabinet maker in that city, where Harris Lebus was born in 1852. His wife, Lena, was a member of a family named Holtz. Holtz was the original family name of Holt and it was Harold Holt, in the next generation, who became the famous impresario.

Louis Lebus came to London in 1857 and settled at 12, Church Lane, now Whitchurch Lane, Whitechapel, and in 1862 moved to 24, Church Lane where he carried on his trade.

In 1866 Sol Lebus was born, and ultimately in 1875, the family moved to another house, No. 37, Wellclose Square, Stepney, one of the few remaining at the present day.

Wellclose Square in those days was a charming Georgian Square with pleasant houses. One house was the Danish Embassy, other houses were occupied by Scandinavian timber merchants and prosperous sea captains. Building began in the Square in 1678 and was part of the boom that followed the Great Fire of London. There was a contemporary saying at the time that "the Norwegians came to warm themselves comfortably by the Fire of London." The Square, then called Marine Square, had its own theatre. Clarkson Stanfield, the early 19th century painter was employed there as a scene painter after leaving the sea on the advice of Captain Marryat. There was also a bar called the Mahogany Bar which became famous during the Victorian era. Commerce gradually invaded the Square until today there are few of the original houses left.

The small business of Louis Lebus gradually increased and in 1877 he took No.38 Wellclose Square and remained in the two houses until his death in 1879 at the age of 62. He had a large family, five sons, Harris, Isaac, Ben, Sol and Phillip, and three daughters, Eliza, Flora and Rachel. In due course all, save one daughter and two sons, Harris and Sol, emigrated to California.

In 1873, at the age of 21, Harris Lebus quarrelled with his father and went to work for an antique dealer named D. L. Isaacs. The same D.L. Isaacs eventually sold out to Moss Harris, today one of the outstanding antique dealers in the country. However, Harris only worked there for twelve months and then returned to the business.

In 1880 the workshop was removed from No.38 to No. 8.5 and 9 Wellclose Square.

Two years before this extension of the business, Harris married Sarah Meyers, who lived in Queen Square, Bloomsbury. It was in this Square that the famous William Morris, who had a profound influence on the design of fabrics and furniture, lived from 1865 for many years.

During the era of Wellclose Square there was no machinery. Everything was made by hand, although probably some few parts were machined at outside trade mills. About 30 men were employed and various kinds of domestic furniture were made, also writing tables and cylinder fall desks.

In 1885 Harris, now 33 years old, moved with his younger brother Sol, now 19, to much larger premises. They bought an 80 year lease of 70-72, Tabernacle Street, Finsbury, and the premises were extended over the years as tabled hereafter:-

- 1887 Lease of 80 years of premises in Paradise Place and Whitfield St. Finsbury.
1889 Lease of 80 years of 19, 20, 21, 22, Paradise Place, 21, Whitfield Street, Finsbury.
1890 Lease of 89 years of 2, 3, 4, Paradise Place, 13, 14, 15, Whitfield Street, Finsbury.

At the same time Harris and Sarah moved to a house in City Road with a garden overlooking the grounds of the Hon. Artillery Company, and as the elder Louis and his wife had died, Sol Lebus made his home with the Harris Lebus family and became a partner with his brother.

Louis and Herman, sons of Harris Lebus, were born in this house and became partners in the business when they came of age in 1904 and 1905.

In 1894 Sol Lebus married Esther Wharman. They had two sons, Louis Sol and Simon (Bob) and a daughter, Helene. Louis and Simon became partners in 1923 and 1926 respectively.

In 1894 a severe fire, known as the Finsbury Fire throughout London, originating at the adjacent premises of Messrs. Angus, desk manufacturers, destroyed most of the factory, which was situated immediately behind Tabernacle Street in Paradise Place. Alternative accommodation was taken temporarily at 91-93, Paul Street, nearby, to help over this period. When rebuilt, additional premises were taken in Tabernacle Street from 62-68 which, with the existing 70-72, occupied the whole block with the exception of Messrs. Marriner, the bedstead manufacturers on the North corner. Thus the area of the factory and showrooms became some 121,000 sq.ft. A license was obtained to erect a bridge connecting the second floors of Tabernacle St. and Paradise Place.

By 1899 Harris Lebus had become the largest furniture manufacturing firm in the country, employing something approaching 1,000 men with a staff of about 45. They had an excellent name for quality and competitors were rapidly being left behind.

Production at that time consisted mainly of bedroom suites and some sideboards.

Woods. The bulk of raw materials came from the United States and the woods used were Satin Walnut, Oak, Ash, Walnut and Mahogany which, at that time, came from Cuba and Honduras. It is interesting to remember that Harris Lebus is reputed to have been the first to introduce Satin Walnut into this country, moreover, to have given it its name. It is a species of American Gum but the name Satin Walnut was accepted by the Trade and it was known as such throughout the country. It was a very popular wood because of its cheapness and remained in favour for many years. It was polished to a light golden colour, sometimes stained walnut or mahogany.

The only veneer used was on fronts of articles for decorative purposes and only in the better quality suits. It was mainly mahogany, all sawcut and much thicker than the knife cut veneers used today.

Cargoes of Cuban Mahogany, purchased at 1/6d cub.ft. c.i.f. London, were delivered to the London Docks and examined by Sol Lebus at Messrs. Esdale or Bow Saw Mills. A great deal of skill and experience was required in selecting the best logs for converting into figured veneer, the butts being used for curls. Plain logs were cut into boards.

As the price of Cuban Mahogany increased, large quantities were bought from British Honduras and as this increased in price, the market moved to West Africa. The logs came from Lagos and Grand Bassam and later, Sapeli. These produced lower grade figure and the best veneers were still obtained from various other sources. Sapeli veneer, which is well known for its stripey figure, was in plentiful supply and relatively cheap and has come to be used extensively right up to the present day.

Interior woods used were Basswood followed by Sequoia. Harris Lebus and the four eldest children, including Louis and Herman, made their first trip to the United States in 1893, when Harris made an arrangement with Messrs. Gunn of Grand Rapids to import their Roll Top Desks, shipped to this country K.D. The contract continues for some years but the desks were ultimately manufactured by H.L. On the occasion of this visit Harris made a contract for Sequoia (Californian Redwood) of which HL were the first importers. The Redwood came in shiploads round the ????. It was used for drawer interiors and solid robe backs in the form of matchboa riding. It later increased in price and was gradually replaced by Cottonwood, a very difficult wood to machine with a tendency to go out of shape. This was followed by Tupelo which was white and clear and had better standing qualities.

Plywood had not yet arrived in this country and it was several years later that the Firm bought their first three ply from Venesta, who imported from St. Petersburg (Leningrad). It was made of rotary cut Ash and Alder, glued together with albuminous glue. After a short while HL started to import in a big way through an agent in this country named Skidelsky, a notable character who became a great friend of the Lebus family. The Russians were apparently the inventors of plywood, which started its life for use in tea chests made for Messrs. Brook Bond. Towards the end of the 20's Birch became popular, then Finland began to manufacture. Plywood came to be used for interior panels of framed up 'Robe backs, Toilets, Square Chests and blind backs of mirrors. It was incorporated for external use in the panelled pedestals of desks and filing cabinets. There was one particular desk, known as the No. 5, 4ft. Roll Top Desk, which ran for many years and sold at £3.15d. A few desks of H.L. manufacturers are still to be found in the back offices of some of HL's smaller customers. Roll Top Desks had a trade Mark on the escutcheon plate. 'Lebus Desk'. It was the only brand name used in those days except for 'H.L.L.' on the face plates of 'Robe locks.

Machinery and Methods. A considerable amount of machinery was installed at Tabernacle Street. There were two boilers, two engines and basic woodworking machinery, much of which came from Thos. Robinson of Rochdale. All machinery was run by line shafting and belts. Steam was used for the two somewhat primitive chamber kilns and for glue tanks, since animal glue only was used. The factory was named The Steam Cabinet works.

There was no machine maintenance staff. Repair work was farmed out to a small engineering shop in Hoxton. Lighting was by gas, some the incandescent mantle type but much of it naked flame fishtail burners.

A large number of hand carvers was employed but later Moore Carving Machines were imported from the United States. This enabled two carvings to be produced at one time. The principle of the machine consisted of a floating vertical column with three horizontal arms fitted to the column about 12" apart. The top arm contained a small dummy bit, the two below contained belt driven

revolving bits. There was a handle attached to the top arm which the operator used to follow the contours of a metal casting taken from an original hand carved block, thus simulating the pattern on the two pieces of wood by the cutting bite below. This made rough replicas of the original carving which were finished off by hand. The machines were eventually moved to Tottenham in charge of an endearing old character named Jimmy Garratt who can be seen in the photograph beside the machines installed in T1 Shop.

Cabinet Making, Polishing, Fitting and touching up were done on purely traditional lines. A Cabinet maker made his job throughout and polishing, fitting and touching up were done by craftsmen within their own benchroom.

At that time the seasoning of timber was somewhat unscientific. Drawers were fitted to very close limits and with much less tolerance than is the case today. As a result the swelling of drawers was a major problem. Eventually HL patented a framed-up drawer side containing a floating panel slot dovetailed at either end. There are still some dressing chests with these actual drawer sides in them in secondhand salerooms.

Design. The design of furniture was greatly influenced by the ornate productions shown at the Great Exhibition of 1851 and much of the floral detail in carving was further influenced by the motifs employed by William Morris (1834-1896).

Typical bedroom suites at that time consisted of:-

Wardrobes 3ft to 6ft or more, wide, with loose plinths and cornices.

Dressing Chests 3ft to 4ft.6in. wide

Washstands, 3ft to 4ft.6in. wide, with marble tops and tiled backs.

Free standing Towel Horses.

Two or three bedroom chairs, usually came seated.

Typical Dining Suits consisted of :-

Sideboards 4ft to 7ft long.

Screw Extender Diners with louse leaves.

2 Carver, 4 small Chairs.

Dinner Waggons.

The Designers, Mr. Archer, would prepare sketches and the Partners would select from them. Archer was by nature a fussy, petulant, difficult character and if, for some reason, major alterations were suggested in the designs, or they were rejected and more called for, he would sulk for days. Later a young designer named Kinsley was brought in who, after the war, on Archer's retirement in 1919, became Chief Designer and remained with the Firm until his own retirement in 1951.

There was no photographic department, designs were sketched and some coloured drawings made. Dickie Porch was Archer's draughtsmen. A notable character with only one eye with which, it was said, Porch saw more than most people with two (to be put to great advantage during the 1914/18 war).

Upholstery. In addition to the manufacture of hardwood furniture, there was a moderate size upholstery factory situated in the rear premises of Tabernacle Street. Most of the frames were bought in and the products were manufactured in the traditional way. Morocco leather and Rexine chairs were much in vogue and large quantities of club type chairs were produced in addition to a wide variety of Drawing Room Suits, sofas and Box Ottomans.

The Upholstery factory remained at the Tabernacle Street for many years after the general move to Tottenham, although the type of product altered as the Firm went more into the Mass market.

Sales. Salesman in the early days not only took the orders and entered them, they made out the Despatch sheets and were responsible for getting the goods to the packers in the basement and, in slack times, even tidied up and re-arranged the showrooms.

Quite large bonuses were given to the senior salesmen and others in those days and some interesting notes in Sol Lebus' own handwriting can be seen in the Appendix. (see Appendix 8)

In the year 1896 the travellers on the staff were:

John Measor, who was over 70, representative in Scotland, Ireland & Northern Counties.

Fred Measor, his son, travelled the South Coast and Eastern Counties.

Gardner Lewis, travelled in the Midlands.

Meredith, travelled Wales and Western England.

Apted travelled the South.

Thereafter the Sales Staff began to increase and by the time the new factory at Tottenham was in operation there were ten. John Measor retired and Ernest Lee took over his ground and remained with the Firm for 32 years. He was a man of jovial personality, immaculately dressed and, in the early days, often with morning coat and striped trousers, fancy vest and top hat and always a flower, generally a red carnation, in his buttonhole. He was as well known as any traveller on the road, a most popular figure who, in addition to his designs, usually had a pocketful of funny postcards.

In the early part of the century Frank Felce and Charles (Jock) Boryer joined the Sales Force and became leading personalities at Tabernacle Street and well known to customers throughout the country, especially in the period between the wars.

After the factory moved to Tottenham, Sales still had their headquarters at Tabernacle Street. A great many customers visited the Showrooms every day of the week, one of the Partners was always there and the head Salesman would be called into the office at the end of the day to give trade and intro figures.

Of the London customers, Maples was the outstanding account. To give an idea of the importance of the account, the following is an extract from the Sales Analysis Book for the years 1908 to 1910, and incidentally highlighting the importance of the Exports during that era.

Percentage of total turnover

	Maples	Town	Country	Shipping
1908	14%	26.4%	48%	11.3%
1909	14.5%	24.3%	41.2%	20%
1910	11.8%	21.3%	41%	25.9%

It was the job of a salesman to visit Maples morning and evening to discuss their orders. There was a private telephone to Maples and they had priority over everyone else. Subsequently, when the factory moved to Tottenham, a man named Charlie Oliver, had instructions from the Partners to 'Steal' anybody's goods so long as Maples had theirs on time. Stanley Wharton of Maples at ??? remembers these individuals and the service rendered by H.L. and says that, without doubt, for quality and reliability, H.L. were second to none.

He tells a rather amusing story of a luncheon party given by Horace Regnart at which Stanley Wharton, then a very young man, was present, also Harris Lebus. It was an extremely good luncheon, including champagne, and after luncheon, Harris said, "Now, Regnart, I have three bedroom suites I want to show you" and pulled out three sketches, "You can set your own price on them." Regnart being in a convivial mood, fixed prices that were far in excess of what Harris had anticipated, but he took the order and Maples stuck to the bargain.

Robson of Newcastle was the first Provincial customer and a large business was done with them. One of the Robsons married into the Ray & Miles family of Liverpool, as a result, they also became good customers. This was typical of personal relationship of customers with the Partners in those days and visits to Tabernacle Street where much more frequent.

There was a curious Irishman, Mr. Dee of Cork, who came to London two or three times a year on a binge. He would visit Tabernacle Street in an intoxicated condition and place an enormous order. Since the salesman knew within a little what Mr. Dee required, the order was reduced accordingly. He would then usually borrow some money to get him home which was always repaid.

Bought-in goods. A sizeable factored business was started and all the buying was done at that time by Harris or Sol Lebus. It covered a wide variety of articles, China Cabinets, Bookcases, Bureaux, Writing Tables, Occasional Tables, Work Tables, Palm Stands, Hallestands, Hall Seats, Fire Screens, Music Stools, Cake Stands, Shaving Stands, Flat Top Desks, Office Chairs, Overmantels, Chesterfield Couches, drop-end Settees, heavy Jacobean Dining Suites with Court Cupboards and some Bedroom and Dining room furniture to augment H.L. production.

A rather interesting sidelight is given on Harris Lebus by C.H. Robinson, who joined the Firm in 1899 as office boy rising eventually to take over the buying of factored goods from the Partners.

"Harris Lebus, the Founder of the modern Firm, was a man of outstanding character and personality, with a business genius second to none. Short, heavily built, he had unbounded energy and driving power which he used relentlessly on himself as well as others. He was about 48 when I first knew

him, and to see a man of his weight taking the steep stairs at Tabernacle Street as he did was a sight to be remembered. He was a man of violent temper which it was as well to keep away from but he was held in the highest esteem by us all. He was a wonderful judge of character and had a genius for finding the right man for the job, and those who knew him well attributed a large portion of his success to this quality.

Harris Lebus used to arrive at Tabernacle Street shortly after nine in his private Hansom cab and the clip clop of the horses hooves was a warning of his approach. It was regretted by the staff when, a few years later, he brought a wonderful French motorcar called a Leon Bolle and they had no notice of his arrival. Harris Lebus was a renowned figure in the district for his remarkable history was known to all. Mr. Harriner of Crosbie Marriner next door, Mr. Rowse Twine and Rope Merchant on the other side of the road, Mr. Abrahams of Abrahams & Gluckstein, the cigar manufacturers opposite, were all great cronies."

Robinson continues: "His Partner, his younger brother, Sol Lebus, many years his junior, was himself an outstanding character. He also had dynamic energy. He had a great capacity for getting things done and was a tower of strength to the partnership. He was chased by Harris and, in turn, chased the staff. Whilst working at great pressure and expecting others to do likewise, he had a happy knack of getting on well with people and was most popular. He was intensely practical and spent most of his time in the factory where he would think nothing of taking the tools out of a man's hand and showing him personally how to do the job.

"The partnership of the two brothers was in many ways an ideal combination for the building up of a very large business. Harris Lebus' determination and wide vision and aptitude for taking risks, used sometimes to scare his brother. Sol Lebus' flair for obtaining factory output, his grasp of detail, his shrewdness and ability, made up a splendid team. At the same time, like most partners, they had tremendous quarrels, but that was natural with two such strong personalities. Against outside attack they were intensely loyal to each other."

Furniture Trades Benevolent Association. Harris Lebus was one of the Founders of the F.T.B.A. He and Sam Waring, later Lord Waring, each promising a thousand pounds. When they approached Harris for his cheque they were told they would receive it when they showed him Lord Warings. This they eventually did and all was well.

Through the years Tabernacle Street was the scene of many F.T.B.A. meetings, and personalities of the Trade like Sam Waring, the Late Sir Ernest Benn of Benn Bros., Botwright, the Editor of the Furniture Record and Charles Allom of White Allom, were frequent visitors.

A new building for orphans was erected at Radlett, Herts. in July 1914 in which was included a Harris Lebus Memorial Hall. In 1920 it was decided, because of its isolation from schools, to move the children from Radlett to Highgate and a fine house was acquired with ample grounds and a lake, called The Limes. This was originally owned by Samuel Price, Harris Lebus' Solicitors.

Members of the Lebus family have been continually active on the Executive Committee of the F.T.B.A. When Harris Lebus died Sol Lebus became Honorary Treasurer followed by Louis H. Lebus,

who also became President, and Oliver Lebus became a member of the Committee.

Office. A small office staff of under fifty was employed in rather Dickensian manner, all at high desks with high stools. The Sales Ledger Department was immediately adjacent to the Partners' office at Tabernacle Street and an individual named Tapley, who ran the Sales Ledger, was shouted for frequently during the day by Harris or Sol to check up on the progress of an account or for some reference with regard to potential accounts.

Typewriters scarcely existed nor was there any office machinery. Letters were copied on the old type Letter Press with the screw turned by hand; ledgers were large, leather covered, brass bound volumes, often with brass locks, and everything was written with pen and ink in copper plate handwriting. There was no private telephone exchange, the amount of telephoning to customers was negligible, some of the smaller customers did not even possess a telephone.

Mr. Gilbert Clarke of Messrs, Pannells was the Firm's Auditor, and rather more work than normal auditing was undertaken. A permanent office was allocated at Tabernacle Street to their staff and one of its members, E.F. Thomas, later became H.L.'s Chief Accountant. He had a curious hobby for an accountant, that of conjuring. This however, remained a hobby, he was never known to conjure with the books.

The Midland Bank Ltd. has always handled the Firm's account. Originally the East London Bank, the name was changed in 1870 to the Central Bank of London. In 1891 the Central Bank of London amalgamated with the Birmingham and Midland Bank Ltd. under the title of London & Midland Bank Ltd. in 1898 the London & Midland Bank Ltd. absorbed the old City Bank, thus becoming the London City & Midland Ltd. and in 1918 that Bank absorbed the London Joint Stock Bank Ltd. and became known as the London Joint City & Midland Bank Ltd., the title being shorted to the present Midland Bank Ltd. in 1923.

It was at the Whitechapel Branch of the Central Bank of London that an account was opened in the sole name of Harris Lebus on September 25th 1873. On September 19th 1892, the account was changed to Harris and Solomon Lebus, and on July 27th 1904 to Harris, Solomon, Louis H. and Herman Lebus. On February 1907 the account was transferred to the Old Street Branch and on July 19th 1947, at the time of the flotation of the Company, the account was finally transferred to the Midland Bank Headquarters, at Poultry and Princes Street.

Export. During the years following the Boer War the Firm was continually adding to its Sales staff. A man named Cammock became a representative in London and travelled round in a pony trap, he called his pony 'Satin Walnut'. He developed T.B. and was sent to South Africa to help his recovery. As his health improved he visited retailers in various parts of the Union where accounts were opened and he then set out to establish business in Australia, New Zealand, India and South America. Exports to these countries rapidly reached significant figures. This was long before commercial flying and necessitated long sea voyages and, as a result, Cammock returned to London about once a year.

An Italian was also engaged to travel in Europe. His name was Nazzari, a fine looking man with a well

trimmed beard a typical Latin and a most engaging personality.

A showroom was opened in Paris in 1900 in the Rue de La Roquette (still the wholesale furniture district,) and later another premises in the Fauberg St. Antoine. Nazzari also took over the South American area. He did an enormous amount of business for that period with Thompson of Buenos Aires and a small amount was done with Wanamakers of New York.

After the outbreak of the 1914-18 war the European business gradually tailed off but a considerable amount of export was done with Australia, New Zealand and South Africa until the end of the '20's (see Appendix No. 30). As these countries became more industrialized tariff barriers arose and furniture exports finally came to an end.

All export goods were made K.D. and frequently soft furnishings from other manufacturers were included in the packing cases.

At Tottenham the whole of what is now C2 Shop was occupied with 'Shipping' Tottenham made goods and factored goods. LSL can remember an enormous consignment of highly ornate and very large pieces destined for a Rajah's palace in India. A fabulous carved Gothic type throne was also supplied for the Sultan of Zanzibar.

Tottenham

The business at Tabernacle Street grew to such proportions that Harris Lebus decides he needed to extend elsewhere. Many journeys were made to the outskirts of London to explore possibilities. In 1899 ten acres of land in Ferry Lane, Tottenham, [REDACTED] was on offer to H. Herman, a competitor, but the deal fell through because of its marshy nature. It was an admirable situation bounded on the eastern side by the River Lea, on the west by the Great Eastern Railway and by Ferry Lane on the North and in January 1900 Harris Lebus purchased 13½ acres.

Harris decided he wanted a young architect who would devote a great deal of his time to building the new factory. He went to his friend Richardson, of the Sun Life Assurance Company and asked for his advice. He recommended Clifford Tee, then in his early thirties, who ultimately took into partnership Leslie Gale, and they became Clifford Tee Gale. Harris struck a bargain with them and paid a lump sum of [REDACTED] for designing and supervising the building of the factory, to include all the transactions with regard to the land. A photo-copy of the account from Clifford Tee is appended. See Appendix 12. The Contractors who built the original factory were a firm called Bateman. The development of the site was as follows:-

The Factory was built on the shore of the site south of Ferry Lane and north of the [REDACTED], the eastern boundary being where the present East Corridor now stands.

[REDACTED] was occupied by a pumping station belonging to the Metropolitan Water Board. This was subsequently purchased and a further 11 acres of land, bringing the site to the banks of the Rive Lea both north and south of the [REDACTED] Railway. C2 Shop was erected on the site of the pumping station, later extended to include C3 and the [REDACTED] entrance yard. [REDACTED] 10 Shops were erected on land that now forms part of 22 Shop. During the ensuing period further land was purchased making an approximately 30 acre site south of Ferry Lane.

27 acres of land north of Ferry Lane was purchased from [REDACTED] Rly Co. in 1937 for the sum of [REDACTED]. 10 acres of this was sold to Messers. Keith Blackman in the same year for the sum of [REDACTED] (See Appendix 9 and 10).

In 1900 Ferry Lane was carried over the railway by a very narrow hump back bridge and descended steadily to the level of the front offices of H.L. The main entrance to the factory was through the existing 'Front Gate' and part of the original cobblestone road still remains.

The factory was the first of any [REDACTED] to be built in the district and one of the first designed with a saw- tooth roof construction.

Sol Lebus was in charge of the Factory when it opened in 1901. In order to be near it, he moved to [REDACTED] Road, Canonbury, where L.S. Lebus and [REDACTED] were born, later moving to 171, Highbury New Park. Sol Lebus had a brougham which took him to Tottenham. With the advent of the motorcar, the Senior Partners moved further afield to [REDACTED]. Public transport to the factory was typical of the times. [REDACTED] trams went past Clissold Park to the High Road, Tottenham . Transport on the [REDACTED] side started east of the River Lea and went to Walthamstow and beyond. Transport was limited and slow but

people were more accustomed to walking and their homes were not so dispersed as they are now.

In the 1900's the Thames Basin around the **????** was very badly drained and flooded frequently. Unusually heavy rains or sudden thaws of snow north of the river brought down a deluge of water, and the works was flooded to a depth of several feet on many occasions during the year. The trenches in the Mill and Machine Shop were covered by wooden slats and, when flooded, they would fill and the slats float off in all directions. It was impossible to see where the trenches were exactly, and on one occasion the writer fell in up to his waist.

Huge sums of money have been spent by the Lee Conservancy Board and the whole Basin within the Tottenham Marshes is now free from flooding.

Power The main power was generated from three coal fired Lancashire Boilers, still existing, and all machinery was driven by line shafting from main shafts run underground beneath the existing Q., R and S Shops. The prime mover was a reciprocating engine made by Marshalls of Gainsborough, which drove a huge flywheel with ropes that drove the shafting. There were many teething troubles, overheating of bearings and stretching and shrinking of cotton ropes, according to the weather, and many nights were spent repairing and overhauling these failures. Two specialists were employed repairing belts on machines which constantly needed attention. Occasionally a belt would break on the main shafting which necessitated stopping the Marshall Engine and putting out of action the whole of the Mill and Machine Shops.

The Marshall Engine continued in service until 1934. Meanwhile a Willans Robinson Turbine and a Sieman's Generator, generating d.c. current, had been installed in 1911 to provide additional power. The first hook-up for further electrical supply was made with the North Metropolitan Electric Power Supply Co. in December 1928.

Over the years, additional Boilers of the Babcock & Wilcox watertube type, and much improved generating plant were purchased. Later, general exhausting to a central point was installed and watertube boilers were fired automatically by wood waste, similarly, automatic equipment for feeding coal to the Lancashire Boilers. Ultimately, these were converted to oil burning.

The original lighting of the entire factory was by large arc lamps. They were very variable in their efficiency and needed a great deal of maintenance. They were replaced in 1912 by Metal Filament Electric Lamps, after the Turbine and Generator were installed. It was not until 1946 that this began to be superseded by Fluorescent strip lighting.

The Chief Engineer was an endearing character, a tubby Yorkshireman, one Sam Jones, who was the living image of Mr. Pickwick, even to the steel rimmed spectacles.

Raw Materials. Square Edged Lumber came from the United States in what was called 'Shipping Dry' condition, which meant it had 30-40% moisture content. It was immediately put into stick on the Field where it remained for **????** little time. It was subsequently dried and left to 'normalise' for a few days before being sent into the Mill. Kiln drying was somewhat less scientific than today and as a result, there were many split chest tops and 'robe ends in final products, especially in oak. In very

dry weather an end would split, making a noise like a rifle shot, it is interesting that splits nearly always happened in the glue joints whereas glue joints today are stronger than the wood itself. A small army of men was kept busy 'splintering up' at certain times of the year.

At a later stage, soft wood was used for runners and some interior work. Since it came chiefly for Russia, ships would start moving when the waterways at Archangel were open and frequently a year's supply would be delivered within three months. An enormous amount of money was tied up in stocks and this large investment appeared to be a relatively ????

Timber Field. There were no concrete roads on the Field. There were trucks with iron flanged wheels running on lines down the various avenues and two or three horses were kept in stables in what is now ??? shop. Frequently horses were not available and men had to push the trucks manually. Due to the poor condition of the sub soil the lines were in continual need of repair and it was now uncommon for loads of timber to fall off the trucks. In 1929 horses were superseded by Ransome Electric locos running on the rails and then gradually, over the years concrete and asphalt roads were made over the whole Field.

A wharf was constructed at the S.W. corner of the Field where bargeloads of lumber arrived from the London Docks. The lumber was unloaded manually and placed on Field Trucks. In 1918 an automatic unloading conveyor was constructed by Ransome, Drew and Clydesdale. Situated at the S.W. corner of the Field, it was carried on wheels running in iron channels on the concrete base so that, when barges arrived, the apparatus could be pushed forward to overhang the towpath. A cradle was then lowered to the barge, boards were stacked on it and a continuous chain of dogs was set in motion to convey it onto the Field where the boards were taken off by men, put into trucks and later into stick. It was in continual use, reconditioned and improved by HL in 1934. This machine was particularly suited to square edged lumber and since this ceased to be imported after the war, it was discarded and all unloading from barges on the River Lea was accomplished by the use of the Butters Crane which was installed in 1929.

Kilns. The first Drying kilns were the ??? Progressive type, built on the site of what is now V4 Shop. Later this building was converted as an extension of the Jointing Department, in which Taylor Cramps were used.

Mill and Machine Shop Equipment. The Mill and very few fliers such as are used today. Most ??? was pushed through the saws manually, although there were one or two saws with a power driven cogwheel feed at the back. There were also one or two large diameter saws that were used for deeping down soft woods, again used manually. Crosscut saws were the conventional pendulum type with counterbalancing weights and were much harder to operate than the existing automatic horizontal slide machines. Some very wide boards required a great deal of effort on the part of the operator to cross cut satisfactorily, as he had to draw the saw in a wide arc right across the board, which seemed to be a perilous operation. There was however, a chain attached to the back of the swing crosscut, as a safety precaution.

Boards that were to be jointed were ??? first on a Jointing machine. A stack of boards would be stood on their edges on the table of the machine in packs, a fence would be handscrewed up to

them to make a tight pack, then the machine was set in motion and the pack would travel horizontally across the bed of the machine at the bottom of which was a cutter block, and anything up to 1/8th inch or more was taken off each side of the board to make it smooth and fit for glue jointing. In addition, there were a number of small overhand planers which were operated manually by pushing one, or at most two boards at a time, over the cutter block.

To improve the technique of jointing, a machine was purchased from the United States called the Linderman Jointer. This machined a male and female slot dovetail, glued the two sides of the joint and slid one piece of wood into the other. It was a relatively expensive process since the machine was not too reliable and it used more lumber than a normal square edge joint. It was finally discarded and in later years it became possible to joint boards straight from the saw.

Synthetic glue did not come into being until much later and only animal glues were used. This necessitated boards being put into cabinet makers cramps and left for 24 hours to dry. Similarly, all veneering was done with animal glue. It must be remembered that there was very little veneering in those days, mainly fronts in figured mahogany which sometimes contained decorative inlays. Veneers were sawcut and much thicker than the knife cut veneers used today and the cores on which the veneers were laid were toothed to improve adhesion.

There were no power presses. A press consisted of a rectangular metal frame. A 3" block of hardwood was placed in the base of the apparatus and a number of hand screwed clamps were suspended on iron girders above the frame. The panels were laid within the cramp and a hot metal ???? placed between each panel making a pile of six or eight and another 3" block of hardwood placed on top. The clamps were then screwed down manually and the whole left to dry for 24 hours.

Other machines were conventional Moulders, Spindles, Jigger Morticers, Single Tenoners, Lock Machines and Boring Machines of simple design. Every man set up his own machine. High Speed Steel and Carbide Tips were unknown. All machines were belt driven and the standard speeds were 4,500 r.p.m. All turning of legs and chest columns of the designs then in vogue, was done by hand.

Exhaust System. The exhaust system from the machines was somewhat elementary. Mostly chips were blown clear through pipes onto the floor and swept manually into Barrows and carted to the furnace for burning as waste. A few machines had rudimentary dust units that collected sawdust and chips automatically into bags.

Production. Orders on the Machine Shop were for batches of suites. Standardization in the modern sense scarcely existed, there was no flow production as such, everything progressed in small batches. There were exceptions however since Square Chests of Drawers were a standard line and the first order at Tottenham was for 1000 Satin Walnut Chests of Drawers. They were 3'6" wide with three long and two short drawers, selling wholesale at 39/6d. These chests and variations of them continued for many years. There was, for example, the Scotch Chest which had a very deep drawer at the top known as the 'bonnet box'.

The Part Stores existed were P Shop is today. Batches of five suits were given out to a Maker at one time. The Storekeeper kept most of the records in his head and issued all the parts to the Maker.

There was very little sub-assembly, the Maker made the job throughout, sometimes employing one or two boys whom he paid himself.

There was a man named Joseph in charge of the Makers (situated in M and N Shops) and he fixed the piecework prices. There was little or no argument with the men.

There were no porters, a man took his job from the Makers into the Polishers. Similarly the polishers took their jobs when they were finished into the Fitters originally situated in G Shop. They used what in those days were called 'skates', consisting of a small platform with four castors attached, a pair of 'skates' being used for each article that they pushed around.

All polishing was done in the traditional manner by men polishers in H/J Shop. Some oak suites were fumed (put into a large chamber of ammonia fumes for about 24 hours before finishing). Mostly waterstain was used and no Oak or Satin Walnut was filled. Mahogany was filled and polished in the usual way and kept in bodied stock and finished for orders. It had to remain for some time after finishing to harden off completely before going back to the Fitters to have metalwork and glass fitted, doors and drawers fitted and eased and finally progressed into KL for 'touching up' i.e. repolishing of drawer edges, door edges etc. which had been cleaned off by the Fitters in the previous operation.

All the cheapest products, namely Satin Walnut and cheap square chests and some desks, were polished by women. The backs of all articles were painted with opaque yellow-green ochre material which was customary in the Trade, the better class goods being left in the white.

The Fitters was situated in G Shop and handled all products in the final stages similarly to the Mahogany suites. Each man applied individually for his metalwork to the 'Brass Room' situated on the site now occupied by the Personnel Department.

There was a school of polishing for indentured apprentices, a five years course. This was situated at the west end of H/J Shop. An apprentice started at about 15 to 16 years of age and earned, as an apprentice, 10/6d per week, rising by 2/6d. If he was a good boy in any particular week he got special pocket money of 2/-. After working as an apprentice for three years, still being trained, he was allowed to go piecework but his earnings were fixed at a ceiling of 30/- no matter what quantity of work he did. If he misbehaved, some of them did, he was reduced to his apprentice rate.

A full rate man took up to £2.12.6d per week, the working week being 60 hours. Half an hour was allowed for breakfast and an hour for lunch. Tea was made from various hot water tanks in the shops, and sometimes cans of beer, at 2d per pint, were brought in at breakfast time. 'Sherb' Worman for example, remembers having done this many times as a boy. Although pay was modest in today's terms, the cost of living was proportionately cheaper and men were interested in their work since they produced the job throughout, especially in the top grade work, which was absolutely firstclass in every respect. Foremen were provided with offices built on stilts in the respective shops to enable them 'to see what was going on'. Time clocks were frequently covered during working hours to prevent 'clock watching'.

Sample Makers. Samples were made in T1 Shop, mainly by three people, Alf Brown, grandfather to A.F. Brown, Fred Trew, great uncle to Eddie & Fred Trew, and Holman.

Designs were sent to them, set out in full dimensions on a board, inspected and criticized by Archer and one or two of the Partners and, when passed, samples were made by hand.

Sample Makers also made very small quantities of the highest grade 6ft. and 7ft. Mahogany, Sheraton, Satinwood and Walnut Bedroom Suites, which would sell at £200 to £300, whether wholesale or retail is not now known.

Progression. There were no Part Sheets but Cutting Lists were made from the boards. This work was done in U Shop and instructions given to the Mill. U Shop at that time was an entity, the walls have since been demolished and the shop merged with Q., R. & S Shops.

Production Control did not exist, goods were progressed from the Makers northwards by about eight men called 'Runners' or to use a more modern term 'Progress Chasers', who looked after customers' orders.

There was no broadcasting system nor many telephone lines. When a customer telephoned an enquiry an office boy was sent chasing around the works to find the runner concerned. A runner would frequently get his goods as far as the loading floor and Charlie Oliver would 'steal' it for Maples and the man would have to start all over again.

Despatch. As had been the case at Tabernacle Street, despatch was mainly by rail, at Company's risk, goods packed in straw and canvas, with some battens, and all packing was charged and returnable. At a somewhat later date ??? was manufactured in a corrugated iron shed situated in the East Yard.

The Packing Department used the whole of 'B' Shop and articles were loaded straight onto railway trucks from the loopholes on the siding. A good output was nine or ten trucks par day. A man named Brooks was in charge of the Packers and Despatch and he was interrogated by the Partners each morning as to how many trucks he would get away that day. As he had very little control over what was sent up from the factory he could not always be sure of achieving the maximum. The writer has a feeling that he would save an odd truck or two up his sleeve in order not to go below a certain minimum.

As such a high proportion of output was despatched by rail it entailed an enormous amount of book-keeping and the offices were extended into a portion of 'B' Shop. There were prolonged arguments with the Railway Company from time to time regarding rates charged for certain types of goods. The Office Manager at that time, dealing mainly with railway business, E.C. Parford, father of E.F. Parford, machine designer, was extremely thorough and knowledgeable in these matters. He had endless correspondence and discussions with the G.E.R. about rates and when Parford did not agree he would fix his own rates and make deductions from the account. The relationship with G.E.R. became so strained that eventually in 1936, they issued a writ for £2,000 for "deductions not allowed" Learned Counsel were consulted, Stafford Cripps and Lionel Heald, and the Firm won its case.

A few horse vans were maintained for London deliveries, in the early days, later replaced by five Thorneycroft lorries, with solid tyres, in addition to one steam Foden truck. The lorries consisted of chassis with detachable open bodies. While one body was in use another would be loaded and when the one was returned empty the other would be lifted on to the chassis for the next journey. Furniture was piled about twelve feet high and held down with canvas and heavy webbing. The driver had no windscreen to protect him. These were fitted later by the Works Carpenter, a Yorkshire character named Dibnah, who was also an expert on splicing ropes for the Marshall Engine.

Offices. The whole of the offices running a factory producing over £300,000 per annum (and it must be remembered this was at the money valuation of the early 1900's), was contained in 'A' Building, now used as Directors' offices. Hours were 9 a.m. to 7 p.m., 9 a.m. to 1 p.m. on Saturday. All the Partners shared one office, later converted to a visitors' waiting room. They read all the post before it was distributed to the departments concerned, excluding customers' orders which were entered first. As was common in those days, all figures of output and the limited statistics produced, were considered confidential and managers down the line had little or no knowledge of what was going on.

Harris Lebus died in 1907 and the remaining three partners carried on. They engaged a Works Manager, Frank Geary, and A.C. Harris was brought down from Tabernacle Street as his Assistant.

Sales and Accounts work was still being done at Tabernacle Street. In the beginning the factory at Tottenham had only one telephone line, plus a private line to Tabernacle Street and one to Maples, later two or three lines were added but the first switchboard was not installed until 1908 in 'A' Building, where it remained until 1945.

Design. In the 1890's and carrying over into the first ten years of the twentieth century, the characteristics of design altered little. There was much hand or machine carving, wardrobes were manufactured on loose plinths and there were heavy overhanging loose cornices and pediments on wardrobes, chests and washstands, all to match. The washstand with marble top and invariably a tiled back, was a practical piece of furniture since in those days facilities such as basins with running water and bathrooms were scarce, and every bedroom had its toilet set of wash basin, jug and soap dish. Sideboards had heavy top parts with columns and mirrors, shelves for nicknacks and every combination of drawer, cupboard and display compartment.

Dining tables were of the extending screw expander type with spars leaves. The simple drawer leaf table was virtually unknown, although the principle was used in what was known as a Monks Refectory table of which a few were factored.

In France a man named Emile Galle, leader of l'Ecole de Nancy was foremost in l'Art Nouveau movement. He was chiefly interested in glass but made his first furniture in the 1880's. His ideas spread to this country and influenced everything in the home. In commercial furniture it developed rapidly and become exaggerated to the extent of using for decoration, pewter panels, bottle glass, leaded lights, copper grills, fretwork with silk and cretonne fabrics behind and ????

Contemporary with this movement a large amount of Mahogany and Oak suites were made which were derivative of Jacobean, Sheraton and Adam periods; decoration, inlaid or carved, was inspired by the classical tradition but reduced to commercial large quantity manufacture.

Pricing There was no costing system; the Partners would assemble at Tabernacle Street on Saturday morning and with Felce and Boryer would stand in front of a suits, each with a scribbling pad and independently put down a suggested selling price. They would then compare notes and usually end up with some compromise. There was apparently plenty of latitude in margins and, since completion was less keen, it proved a satisfactory method.

Exhibitions. So far as can be traced there were less clearly defined buying times than today. Furniture Exhibitions started as early as the 1890's at the Royal Agricultural Hall, Islington, followed by other exhibitions at Manchester, the British industries Fair and so on, in which H.L. occasionally took space. An interesting account of the exhibition movement in the Industry received from Ar. D.D. Mitchell of ??? is shown in the Appendix. (See Appendix 20)

Contract Work Just prior to the 1914-1918 War, a certain amount of contract work was undertaken, the outstanding contract being the supply of fine inlaid mahogany furniture for the staterooms of an entire deck of the new Cunard liner 'Aquitania'. Unfortunately after the first trip, war broke out and the 'Aquitania' was turned into a hospital ship.

Some contract work was also done for Waring & Gillow, who specialised in ships furniture, made at their original factory in Lancaster.

The whole of the furniture for the bedrooms at The Adelphi Hotel, Liverpool, was made by H.L. in French Walnut.

Some thousands of towel cabinets were made for the initial Towel Company, which Company has since grown into a very large organization.

Thousands of bookcases were made for the educational Book Company.

Bookcases were also made for Encyclopaedia Britannica and large numbers of gramophone cabinets for H.M.V.

Furniture was also supplied to Colney Hatch.

1914 -1918 WAR

In August 1914 war broke out and the production of furniture gradually declined until the entire factory was employed manufacturing munitions.

In those days there was limited knowledge of camouflage, nevertheless the roofs of the Works, including the glass, were painted in various shades of green and brown in an endeavour to merge them with the surrounding countryside. Remains of the camouflage may still be seen on the slates on parts of the roofs to this day.

Air raids were almost non-existent. The Zeppelin was the greatest menace and frequently flew over London but the nearest incident to Tottenham was a boom dropped at Blackhorse Road, Walthamstow. A Zeppelin on a bombing raid was brought down at Cuffley in Hertfordshire.

At the outbreak of war, HL lost large numbers of employees to the volunteer Forces and many valued people never returned. Whilst overseas they and their families were not lost sight of, and regular parcels of 'comforts' as they were termed, were despatched to each man regularly.

Prior to the war the only women employed in the Firm were polishers, but as the pressure of work increased and male labour became scarcer, the employment of woman increased enormously until they ultimately predominated in most of the processes of manufacture.

The first enquiry for war supplies came about through Colonel Wornum from the Government Small Arms Factory at Enfield, who called to see if HL could undertake to make some thousands of cordite reels. The order was speedily executed and thereafter the Works revved up to make vast quantities of war supplies entailing the use of wood and became the most important producers of this type of product. Some typical examples of contracts were:-

450,000	.303 Thousand Round Ammunition Boxes
274,000	Russian 600 Round ditto
500,000	Pickaxe Helves
1000,000	Poles, Tent Shelter
3000,000	Pins, Tent
33,000	Stretchers
242,000	Wheelbarrows.
100,000	4.5 Projectile Boxes
25,000	Broom Handles PER WEEK 'To be continued until further notice)
25,000	18 Pounder Boxes.
	Several thousand Tent Bottoms
	Several 100,000 Cordite Boxes
58,000	Mawls
100,000	Slings for carrying shells.

etc. etc and such orders were many times repeated. It is interesting to note that Tent Pins were nominally about 1" thick, of hardwood, unplanned, and having been squared to length were put through a Fourcutter crosswise and finished in one operation. They were packed tightly together and virtually formed a continuous block wood. And this was long before Carbide Tipped Cutters were invented. The Mattison Lathes which had been imported from the U.S.A. worked easily day and night making Pickaxe Helves out of Prime English Ash, on a site that is now P&O Shops, ground floor.

The Management between the three Partners was mainly divided between Sol Lebus and Louis H. Lebus running the factory and Herman Lebus making the outside contacts with the War Office, later the Ministry of Munitions which was formed in 1915 under the direction of Lloyd George. The original Woolwich Arsenal specifications for Army supplies were very rigid and elaborate, having been conceived and designed many years prior to 1914. As the war progressed it was realized that many of the supplies would become expendable and, due to Herman Lebus' initiative, specifications were simplified and enormous quantities were produced quickly and cheaply. Herman Lebus made many hundreds of journeys to Woolwich Arsenal, frequently taking Porch the one eyed draughtsman, with him. Despite the modifications, the products were well constructed and completely adequate for their purpose.

A large staff of Government inspectors was permanently employed at Tottenham to examine the finished products and stamp them with the Government stamp.

Due to the blockade and the difficulty of importing timber from abroad, enormous quantities of homegrown timber were needed and many of the prewar Sales staff travelled throughout the country seeking suitable sources of supply. The Timber Field was jammed with timber, softened milled to rough out sizes for the particular contract in hand and kept in stock until adequately seasoned for its purpose.

Aircraft. The production of this large volume of war supplies continued until 1917. Meanwhile Messrs Handley Page had made great headway with a medium size bi-plane bomber with a span of about 100ft., the O100, designed for the Admiralty to carry a crew of two and six 112 lb bombs, at a speed of 72 m.p.h. and equipped with two 250 h.p. Rolls Royce engines. A modified version of similar dimensions and capacity was designed for Army use called the O400 and this became famous as the largest bomber used during World War 1. It had an eight hour endurance and a speed of nearly 100 m.p.h. and could climb to 10,000 ft. in approximately 45 minutes.

As Handley Page was limited in capacity, production space was required elsewhere and Herman Lebus, who was in close touch with the Ministry of Munitions obtained a contract.

This was the first occasion that the Firm changed from 'normal' woodworking to engineering in wood. The parent Firm, Handley Page, sent some hundreds of drawings to HL requiring most careful study. Whilst our personnel were accustomed to interpreting drawings and prints of relatively simple articles, aircraft blueprints which showed assemblies, sub assemblies and everything in the greatest detail, including all the metalwork, represented a new language. While the bulk of the interpretation of these drawings into parts was executed by a large augmented drawing office staff, Herman Lebus himself spent many hours into the night studying and discussing them with the people concerned.

The firm made the entire machines, including fuselages, and the final assemblies were sent to other factories to be mounted and have the engines installed. The aircraft was constructed almost wholly of Silver Spruce, a strong relatively light, straight grain pine, and a small amount of English Ash.

The wings, of elementary design, had wooden spars and ribs with stringers threaded through them to give them rigidity and the whole of the wings, instead of being covered with plywood as the second war Mosquito, were covered in first quality Irish linen. A sewing machine department was set up to join the material and tailor it to the required shapes and, in the case of the wings, the bag was pulled over the frame as tightly as possible and then taken to the Dope Shop, placed vertically on trestles and the dope applied by brush.

A special shop was erected for the doping operation in a position equivalent to the middle of 22. Since steel was in short supply it was mainly constructed of wood. It had to be heated and exhausted to enable the process to be done properly and, at the same time, protect the workers from fumes. The building was later demolished to make way for a modern building.

The fuselage was of light construction and linen was stretched over it in a similar manner to the wings. The two planes of the bi-plane were kept apart by struts attached to the spar of the wings and the whole made rigid by an assortment of wires and cables.

In May 1918 Mr. A.L. Flower of the Alliance Aeroplane Co. Ltd. Oldham paid a visit to H.L. This Company had been taken over by the Government and was assembling American aircraft imported from the States. They were about to produce the O400 and the object of Mr. Flower's visit was to see if he could get any ideas on production. After being taken round the Works he said he was much impressed with what he had seen and considered that HL held the foremost place among the factories he had visited in other parts of the United Kingdom.

Other aircraft were manufactured at Tottenham, the Handley Page V1500, a much larger machine than the O400, and destined to bomb Berlin, but in fact no quantity was ever delivered and the war ended before they went into service.

Another smaller monoplane was manufactured called the Vickers-Vimy and this was the identical machine in which Alcock and Brown made the first transatlantic flight. Their statues can be seen at London Airport.

Armistice. On Armistice Day, November 11th at 11 o'clock, the entire factory ceased work. A piano was imported into H/J Shop and Louis H. Lebus, who had an excellent voice, led in singing 'Tommy Atkins, amid tumultuous applause. The singsong and dancing went on for a couple of hours and then the works closed for the day.

Archangel Expedition Large quantities of sleighs were made, mainly of Ash, for the expedition against the Bolsheviks, with which Churchill was concerned. Shackleton visited Tottenham on two or three occasions to examine the progress of the work and arrange certain modifications.

POST WAR

Return to Furniture. Gradually Government Contracts dried up, shops were freed and furniture manufacturing began again.

The first bedroom suite to be made after the war was the D34. 4ft. suite, selling at £8.10.0d. and a 5ft. Oak suite of similar design for £9.10.0d. This was the seed of the modern form of manufacture and designs were based on what was called 'traditional' lines. Since a high proportion of the products were manufactured in Oak, the early influence of the classical design on which pre 1914 designs were based, began to decline.

Ships Work. At the same time large contracts were obtained for many of the shipyards such as John Brown, Cammel Laird, Vickers, Beardmore, Hawthorne Leslie, etc. for bulkhead work i.e. ships panelling. The Franconia and the Laconia were among the famous ships with which H.L. were concerned, also five ships built in Glasgow for Australia, named after bays, such as the 'Jarvis Bay'.

Manufacturing Policy

At this time the Partners took the view that the furniture trade was likely to show considerable expansion, especially in the Mass Market. There is an interesting minute made by Gilbert Ularke of Pannells who, it must be remembered, were much more than Auditors to the Firm, at that time, describing a meeting on manufacturing policy. In the meantime, the Partners had been to the United States on the first of a series of visits from which they brought back a host of information about more modern methods, new machinery and many samples of new finishes for furniture.

“Minute of a meeting held at Tottenham on July 23rd 1920. Present: - The Three Partners, G.C. Clarke, A.C. Harris.

“Manufacturing Policy:- For the purpose of discussion the Furniture Trade of this country was divided into five classes. Of the highest class, the Firm had done but very little; of the second class the great bulk of its trade had been composed; of the third class a little had been done, but of the fourth and fifth classes nothing whatever: it was accepted that at least 70% of the British Furniture Trade consisted of kinds of goods in the fourth and fifth classes, that the Firm had not hitherto attempted to manufacture.

“The Firm is of the opinion that the classes of person that have hitherto bought its furniture are now less able than before to make purchases, but that the classes of person that hitherto bought inferior furniture have acquired additional spending power; it thus foresees a decline in the demand for furniture of the sorts it has hitherto manufactured.

“The Firm, therefore, has decide to attempt the manufacture of, not the lowest class of furniture, but of the fourth class; it is not its intention to make anything that is not likely to wear well, and puts forward as an analogy between the present and the proposed kinds of furniture – the motor cars of Rolls Royce and Ford.

“After hearing the views of the Partners at great length, it seemed to G.C.C. that the new departure followed the only course that appeared wise.

“At the present time, the ‘loading’ necessary to provide for Establishment Expenses and Profit is said to be 68% the Partners are quite clear that there is no chance of their being able to sell fourth grade furniture with any such percentage added to Prime Cost. The new departure is possible therefore, only by doing such a large turnover as will reduce the loading to say, 45%.

“It is believed that this large turnover can be done, but it will take some years to effect it, and during those years the Firm must contemplate losses perhaps of a very substantial mind. G.C.C. said that with this in mind, the Partners would do well to consider the Goodwill Clauses in their Partnership Deed; for if one of the Partners died during the contemplated period of loss, his estate might receive very unfair treatment were Goodwill calculated on Profits for Financial Years happening immediately before death; to this Mr. Herman Lebus agreed, Mr. Sol seemed to agree and Mr. Louis did not seem to agree.

“The difficulties are great in the way of the new adventure, as up to the present time the makers of fourth grade of furniture have been of the “Garrett” class, and no factory properly so called has succeeded in competing with such. On the other hand, in America large factories are making this class of furniture with great profit. After hearing the views of the Partners, G.C.C. suggested that they must not suppose for a moment that the problem was not one they could not solve successfully.

“It appears that the new class of furniture must be made on American methods, and that the Firm has resolved to apply such methods to all its Furniture; further, that substantial orders for machinery have been placed, though the date of delivery cannot be learned. Mr. Sol Lebus is of opinion that one design of the fourth grade furniture should be prepared, and that 500 suites of two sizes, or, say, 1,000 suites in all, should be put in hand immediately; Mr. Herman is of opinion that no steps should be taken towards practical manufacture until they have the American machinery; Mr. Louis is of opinion that samples should be put in hand before anything is done, but that after the samples had been approved then the manufacture should proceed, machinery or no machinery. As it appears that the samples could not be finished until towards the end of September, the question of proceeding to manufacture was left over for decision until then.

“Mr. Sol said he would like G.C.C. to ‘overhaul’ Mr. Louis’ calculations by which a loading of 45% is shown; to this Mr. Louis did not subscribe very heartily. G.C.C. said that if anything was sent to him he would be very pleased to look through it; but that whether the particular calculations of Mr. Louis were right or wrong, the Firm had to find some methods that would lead to a right result and that no particular figures were of great moment at the present time.”

A policy on some such lines was, in fact, put into operation, and HL pioneered and built up a name for well constructed, inexpensive furniture, light in construction, with shallow wardrobes, much veneered plywood and larger drawer and door tolerances.

Statistics show that the market grew rapidly in most years up to 1939, with an average annual increase of 12 to 13%. This rate of advance was significantly better than the advance in consumer’s expenditure is total. There was a recession from 1930 to 1932; thereafter the expansion was renewed and the market continued to grow at about 10% per annum. Over the whole period from 1920 to 1938 it increased nearly fourfold. In spite of the fact that labour employed in the Industry grew from 72,000 to only ????. This lively growth was no doubt influenced by the dramatic increase in the number of homes and flats completed in the boom years for house building in the 30’s.

While it cannot be claimed that the Partners were able to foresee twenty years ahead, it is some proof that their policy of going into the Mass Market was fully justified. The number of travellers was greatly increased, grounds were made smaller and there was more concentrated selling. Thus HL obtained an increasing share of the total furniture market.

During this period large quantities of factored furniture were brought in at Tabernacle Street to supplement Tottenham ranges and, as fashion changed, palm stands, shaving stands, coal boxes etc. faded out almost entirely. One of the surviving articles of that time which sold in very large quantity, is the China Cabinet. Its present counterpart, although somewhat vulgar in design, is restrained compared with the flamboyant cabinets of the early days.

New Personnel G. Gosling, who had been adviser from the Ministry on timber seasoning, in conjunction with Princes Risborough Research Station, joined HL soon after the war. He had originally trained as a pharmacist and ran his own pharmaceutical college. He left that to join HL and was the first scientist, or any individual with a trained mind, to enter the Firm. He enjoyed the confidence of the Partners and was consulted on many matters has become head of a somewhat elementary production control – nevertheless he brought to the dining room every day a book showing an analysis of all orders received the previous day, and this before the days of office.

At that time a man named Downing, who had succeeded Sam Jones (Mr. Rickwick), was in charge of the Engineering Department. Downing had been an electrician of no great knowledge but he was responsible for a huge plant and scarcely fitted for such a responsibility. It was Gosling who

persuaded the Partners to make a change and in 1924 an acquaintance of his, Bernard Humphrey, was engaged; he was a trained engineer, [REDACTED] and he remained with H.L. until his retirement in 1958.

Machinery. With the increased generation of electricity machinery which had been driven by line shafting and belts was gradually changed over to electrical drive and some individual motors were installed in local areas in the Machine Shop; later small motors were fixed adjacent to cutter blocks on Moulders with V belt drives; ultimately, in 1929, a changeover was made to a.c. current and all new machines purchased had direct drive motors fitted.

Before the 1914-13 war Carbon Steel only was used for cutters. Between the wars High Speed Steel and, to a limited extent, Tungsten Carbide Tipped Cutters, were progressively employed. These not only gave a clean finish and facilitated the machining of timber normally difficult to machine, they also lasted much longer. One or two Woods Fourcutters were purchased from the United States which had circular blocks instead of square blocks. These were removable and were able to be set up apart from the machines so that this system came to be adopted universally and all moulders were adapted to do this.

Up to and during the war men on machines set up their own blocks and it was only after the advent of the Drawing office and the Part Sheet System described later that it became possible to have blocks set up in the Cutter Shop. These were then serviced to the operator at the appropriate time and only minor adjustments were necessary to be made on the machine. This resulted in a material reduction in the total setting times on the shop floor.

A few years before the advent of a.c. current, compressed air was used to drive certain machines. Some spindles were purchased from the United States driven in this manner, which increased the speed from the conventional 4,500 r.p.m. to 15,000 r.p.m. Circular cutter blocks of small periphery were used instead of the old fashioned square blocks. This enabled certain double spindle work to be processed on a single spindle. Compressed air came to be used for Jigs and Fixture in place of the hand operated types.

Over the years, inspired by the many things seen by the Partners in the U.S.A., coupled with HL's own ingenuity, Nailing Machines, Screwing Machines, Belt Senders, Compressed Air Cramps, etc were introduced to facilitate the new methods of mass production.

As time went on it was found expedient to design and manufacture a few specialised machines to do the large volume of standard parts, an example of which was the automatic dovetailer. The original Dodds Dovetailing machine imported from the U.S.A. was redesigned to become wholly automatic.

Additionally, certain conventional machines were linked together to do two or three operations and thus avoid handling between one machine and another.

Labour. In January 1919 the Partners met Representatives of the National Amalgamated Furniture Association and the Amalgamated Society of Woodworking Machinists and members of the Works Committee, and a conference was held in order to settle the conditions of employment on the resumption of the manufacture of furniture.

The rate of pay for Machinists, Cabinet Makers and Fitters was [REDACTED] per hour. Spindle Hands and Fourcutter Machinists [REDACTED] per hour. French Polishers (Male) [REDACTED] per hour (female) 11d per hour.

Trainees in polishing (both boys and girls) were attached to one skilled man or woman and earned a rate of 5d and 4d respectively, increasing every six months by 1d per hour. The period of training was about four years.

The basic working week prior to the war had been 60 hours. By the end of the war it had become 50 hours. During 1919 the FIVE DAY WEEK was inaugurated and, at the same time, hours were reduced to 47 per week, remaining static until 1938 when they were reduced to 45 per week. In each case the hourly rate was raised so that no-one earned less money and the bonus rate in 1937 yielded a minimum of 40-45% above the flat rate. Both pay and working conditions were ahead of those existing generally in the Trade.

The Strike. In 1923 A.C. Harris, then Works Manager, together with certain other Managers, produced a list of prices it was proposed to pay for making and polishing. The Firm at that time was ostensibly an 'open shop' but there were large numbers of men belonging to various Unions then covering the Trade. Representatives of the men were called in and given a list of prices for consideration and asked to come back with any queries they wished to raise. They were not prepared to consider piecework at all and, with the exception of a few old faithful, the entire Works went on strike. As a result, the Firm took on other labour, much of it unskilled, and gradually many of the strikers drifted back and worked to the piecework rates originally offered.

Time Study Cabinet Making began to be split up into individual operations and sub-assembly was initiated. The beginnings of progressive assembly lines in the Makers was worked out by Louis H. Lebus and E. Zala and the process refined over the years.

As Management obtained more experience, stop watches were used by certain foremen to arrive at prices for new products, then in 1931, it was decided to set up a Time Study Department. It was a new tool of management for the Furniture Industry although it had been practiced in the U.S.A. The original composition of Time Study and the split up of operations was initiated by the famous American, F.W. Taylor, as far back as 1881. Others followed Taylor until the idea gradually caught on in many industries. Taylor included elementary Motion Study in his experiments but that did not develop at HL until a later date. The work commenced in the Mill and Machine Shops, Makers and Polishers were already working piecework. Piecework prices were expressed at that time as a price for the job but as the Time Study Department got into stride this system was altered and bonus prices were introduced and all work on payment by results was expressed in time and not in money.

Inspection. Coinciding with the sub division of operations an Inspection Department was instituted, bringing in a new man, H.G.M. Barnes, a trained engineer.

Furniture Drawing Office. A further result of operations on a progressive system was the necessity for machining to be done to much finer limits and to enable this to be accomplished the Furniture Drawing Office was created under H. Hill. Part Sheets were introduced giving detailed dimensions of every part. It was not until 1944 and the advent of Utility Furniture that the method of expressing sizes in inches and fractions of inches was changed over to the decimal system, thus giving a greater engineering approach to the manufacture of furniture.

Documented records of parts produced assisted, in some measure, the introduction of payment by results in the Mill and machine Shops.

Laboratory. Soon after the war it was decided to engage a scientist and start a Laboratory and A.E. Lain, who had been a pupil of Gosling's at one time, joined the Firm in 1921. He travelled throughout Europe and the United States and contributed greatly to H.L. finishing processes. Eventually the

whole of what used to be the garage was turned into a laboratory and factory to manufacture finishing materials.

Cellulose Spraying. As a result of visits by Louis H. And Herman Lebus to the United States, where they saw this system and recognised its great potentialities, it was decided to introduce cellulose spraying at Tottenham, and in December 1920 the whole of the male and female Polishing Department was assembled and addressed by Mr. Louis who explained the nature of the materials to be used and the various processes to be employed, and emphasised that the reason for introducing it was the necessity to cheapen the cost of polishing and bring down the price of furniture. Within a few days, the employees agreed to co-operate with the new scheme and the Firm went ahead with the installation. It started in a small way with hand spray guns and individual exhaust booths with rise and fell turntables. It was not until later that conveyors were installed.

An interesting development was automatic spraying of blind backs of chest mirrors which took place in **????** shop. The mirror frames with blind backs facing upwards were placed on a slowly moving conveyor belt and the spray gun, which was suspended from above, swung back and forth to simulate hand spraying. Arising from this conception of automatic spraying, a machine was built to do carcass work. The objects were placed on the conveyor and a reciprocating gun was suspended on a horizontal beam over the runway and similar reciprocating guns were placed at either side of the runway. The guns moved horizontally and vertically and were controlled by an electric eye so that when the guns reached the end of a surface of the product the spray automatically switched off. The cellulose lacquer was dark Jacobean in colour and only the **????** furniture was treated in this manner.

After many trials it was discontinued, since to work the machine to greatest advantage it necessitated a very large number of articles of one type and unfortunately, it interfered with the balance of production. It was most ingenious and did, within limits, an excellent job.

A small drying tunnel was placed at the end of the spraying operation to hasten drying and enable the jobs to be 'pulled over' because the articles did not at that time travel beyond the main corridor.

Conveyors. Conveyors were introduced firstly into the Polishers and by 1930 there were twelve polishing lines. This would not have been possible with the conventional methods of polishing because of the drying times but with the advent of cellulose with its quick drying properties, the complete conveyerisation of department was accomplished in a very short time. Cotton belts were used in the initial stages later superseded by wire mesh.

Interior spraying was the first operation done on the line. Then overhauling, spray matching and lacquering, finally hand finishing was transferred to the moving belt. This system operates to the present day.

From the polishing Department an output conveyor was installed to take articles to the warehouse at the North end of the factory, situated mainly on the ground floors in B., D. And C.1, 2 and 3 Shops, thereby eliminating the necessity of finished article being loaded onto the old platform trucks and pushed manually.

The Makers was then tackled, particularly the toilet section where roller conveyors were first installed.

Thirdly, distribution within the Warehouse.

Fourthly, from the Machine Shop into the Part Store. To achieve this a tunnel was constructed in 1938 under the railway.

Offices. Office work covering Bought Ledger, Sales Ledger, Accounts, Cash Receipts and Banking, Cash payments to outside makers, Accountancy & Secretarial, was still done at Tabernacle Street. In a Report dated 1921, E.F. Thomas, Chief Accountant at that time and a most shrewd person with his feet well on the ground, gives his opinion on a proposal to bring these departments to Tottenham. He showed that a saving would be shown in personnel amounting to the sum of £18.1.6d per week. An interesting note in his conclusions is quoted below:-

“I would suggest that the conclusion to be drawn from this document seems to be that office duties generally can be carried on just as well at Tottenham as in London. That there may be a saving of £20 per week in so doing if the present Tottenham staff can perform all the work now done by the London General Staff. I fear, however, that this would not work out in practice and we would find that both ends would soon require more help and so the visionary £20 would quickly disappear.”

In the same report appears an interesting comparison of office materials used in the years 1913 and 1920.

In 1913 the annual cost of stationery (of which more than half was for books and a small number of loose leaf books) was £919.4.3d. In 1920 it was some £2,400.

Stamps and telegrams in 1913 was £1,035 and in 1920 (during which time the postal rates had doubled) it was £626, the reduction perhaps due to the greater use of the telephone.

H.L. postal address and telegraphic address – Bedroom London, was still Tabernacle Street and all correspondence was opened there and orders copied out before being sent to Tottenham, causing much unnecessary delay.

The move was finally made and departments accommodated on part of ‘C’ First Floor, which had been a warehouse. It was somewhat rudimentary; there was an open well in the floors at that time and the offices had the full benefit of ventilation from below! The northernmost part of ‘C’ First Floor still remained a warehouse and the offices were approached from ground floor level by light wooden staircases.

Warehouse & Despatch. The remainder of the Tottenham Warehouse was situated above the offices on ‘C’ 2nd and 3rd floors, and Despatch Department was in ‘B’ Shop – C2 and 3 Buildings not having been erected at that time.

While the railway continued to be the chief means of transport, in the late 20’s hiring of outside lorries for road transport began and, by the middle 30’s had grown considerably, something like 125 lorries from 800 c. ft. to 1250 c. ft. being employed.

Welfare. From quite early years the Firm had a modest Surgery, originally situated in U Shop, and welfare was looked after in some measure by the Partners through the medium of a benevolent individual named Perrin who, actually, was responsible for the Carving Department in **FL**. Subsequently this kind of work and the engagement of personnel was taken over by A.C. Harris. The Surgery was moved to its present position, qualified nursing staff was engaged, with a doctor at fixed times each week for consultation on any medical matter, in addition to accidents sustained at work. All this was long before such things became the commonplace of the Welfare State.

In 1937 a new Factory Act came into being and the Firm decided it was necessary to extend welfare work and start a pukka Personnel Department. The Department was housed on the site of the old "Brass Room" where it still remains. A.R. Lamb who had been with the Firm in various capacities since 1931 became Personnel Manager and took over the engagement of personnel and the keeping of records and all matters concerning safety and welfare in its broadest sense.

Up to 1918 there was no Works Canteen. Many employees brought their own food and ate at their benches and there were some simple facilities for "hotting up" food. Office workers similarly would bring in cold snacks and the remainder patronised the local coffee shops. During the 1914-18 war the Authorities put up a fairly substantial War Kitchen on the site that is now the Hale Garage and this was used by a number of people. The Firm then equipped a canteen on part of K/L 2nd floor and this was gradually enlarged and improved until it now occupies the entire floor.

It must be remembered that while it was a desirable and necessary adjunct as a service to employees in a large industrial plant, a great number of employees lived near the Works and returned home to their mid-day meal, and this still applies today with the increased transport facilities.

For a short while the canteen was farmed out to an outside contractor but experience showed that good value and adequate meals could not be served at a modest price and provide a profit so the Firm took over the running of the canteen and subsidized it.

In the early 1920's the cost of a meal consisting of meat and two vegetables, sweet and a cup of coffee was 1/1d.

Advertising Department

The first photographs were taken at Tabernacle Street at the end of the last century by an HL driver interested in photography and from this a Studio was set up on the premises where it remained until the 1930's when it was incorporated with the Advertising Department then coming into being at Tottenham.

The earliest catalogues were printed from line drawings, When as photography improved, large catalogues bound in hard grey covers and containing one or two coloured prints, were produced yearly by outside printers at a cost of 5/- each. This became a brand image of the Firm of Harris Lebus. Subsequently, offset machines were installed at Tottenham, and small catalogues with limp covers, still grey in colour, were printed at the much reduced price of 6d per copy. These were issued monthly, since new designs were introduced continuously throughout the year and the catalogue could be brought up-to-date each month. There were two types for distribution to the appropriate customers, one with a 50% and one with a 100% mark-up. The issue of a small catalogue in large quantities was considerable asset to Sales and it is recorded that the catalogue business increase from ???? in 1930 to nearly ???? in 1938 (This also reflects the increase in total turnover). The policy of producing catalogues three times a year did not begin until after the cessation of Utility Furniture following the Second World War

The off-set printing machines were superseded by the Rotaprint machine which enabled the Firm to produce much improved illustrations, special catalogues for customers and factory stationery of all kinds. In addition the Department prepared enormous quantities of driving for line blocks for customers' local newspaper advertising.

Provisional Showrooms. The First Provincial showroom was opened in Manchester. A lease was taken of premises in Gt. ??? Street in 1926, followed by leases of premises in Gt. Hampton Street,

Birmingham and 5, Saltmarket, Glasgow in 1930 and Bolt Street, Liverpool in 1937. These remained open as permanent showrooms until the 1939 war.

In 1935 an exhibition was held at Burlington House under the auspices of the Royal Academy and the Royal Society of Arts. It depicted British Industrial Design since the Great Exhibition of 1851. To quote from an article that appeared in 'The Studio' of February 1935, a speech was made by the Prince of Wales to Architects at the Guild Hall in which he said "You must give consideration to another greater and far more important ideal, designing and working for the majority instead of for the needs of the minority. You are charged with the great and honourable duty of educating the people of the country to better living."

Harris Lebus sent in a design created by the Chief Designer, H.R. Kinsley, which was accepted and shown in the Exhibition. It came to be known as the "Academy" suite and because of its intrinsic merit and the prestige afforded by the exhibition, many hundreds of suites were sold.

A great deal has been said of the manufacturing development in the factory between the wars.

Volume increased, customers increased, designs increased, and as a result, complexity increased and, indeed, competition increased. All times factors necessitated increase in office staff and the employment of greater control by management.

A major tool of management was the inauguration of Budgetary control. This emanated from the United States and HL was the first firm in the Industry to install such a system.

The Factory Budget was based on the Sales Budget. The number of articles to be sold was translated into hours and this became the yardstick upon which to forecast the amount of direct and indirect labour and materials. This applied not only to the factory but to the offices as well. Later Capital Budgets were made in order to forecast finance requirements.

As has been mentioned earlier, management down the line had little knowledge of costs but it was evident that in a modern production unit, if people were to manage successfully, they needed yardsticks to measure their efficiency. The old idea of everything of this nature remaining "secrets" of the Partnership had to go by the board. It was not long before all management right down to the foremen on the shop floor, were put completely in the picture and, in fact, assisted in compiling their own budgets. Thus top Management possessed a master plan and could watch the efficiency of all departments week by week. This enabled Standard Costings to be introduced and for the first time, in the year 1934, the 'real' cost of the Firm's products was known. Later the information produced by this system enabled a complete set of accounts to be issued every 20 days.

1939 WAR

In the early 30's Hitler came into power in Germany and tension rapidly increased. He walked into the Ruhr virtually unchallenged and the German nation was worked up into a frenzy of aggression culminating in the seizure of the Sudetenland and the sacrifice of Czechoslovakia by the 'Peace in our time' negotiations of Neville Chamberlain in 1938. We in Britain, after having recovered from the initial relief, began to realise that war might still come. The Government hastened the manufacture of munitions and initiated auxiliary services of all kinds to deal with such an eventuality.

HL started the construction of reinforced concrete trenches on the North Field (where the Warehouse and Sports ground now stand), for the protection of employees against air raids. The trenches were some 530ft. long by 5ft. wide and 7ft. 3in high. An adjacent subterranean Control Room was in telephone communication with the factory and the look-out posts built at its highest points. Ultimately there was also a hook-up with local gunsites to receive early warnings.

In the summer of 1939 Sir John Anderson, the then Home Secretary, who later created the 'Anderson' shelters for the public, paid a visit of inspection to H.L.

A pukka Fire Brigade was created from volunteers. The Firm for some years had had a small voluntary service in charge of a professional ex London Fire Brigade officer, and from this a much larger force was built of approximately 60 men, the officers including D.P. Stratton, A.F. Brown, L. Courtney and F. Forrest, before he became a R.A.F. navigator) The duties covered the City premises as well as Tottenham. It was eventually incorporated in the Auxiliary Fire Service for the area, liable to be called upon for public service.

A complete company of Home Guard was formed from H.L. volunteers and ????, one of H.L.'s Scottish travellers, and a captain in the 1914-18 war, was put in command.

A First Aid Unit was recruited from volunteers in the factory and lectures given and equipment provided for dealing with various types of gas and injuries. A decontamination Squad and a Heavy Duty Gang were trained for demolition and rescue work after air raids.

Rotas were prepared for shifts throughout 24 hours for all these services, eventually being put into operations.

On the very day that Neville Chamberlain returned from "Munich", Herman Lebus, accompanied by A. Brown Snr and H. Hill paid a visit to Gloucester Aircraft to see the Hurricane Fighter aircraft, at the invitation of the Air Ministry. This was an all metal machine and therefore considered by the Firm as unsuitable for its set-up. The next visit was to H.G. Miles to see the Miles Master wooden train aircraft. It is interesting that the offices of H.G. Miles were at 'Hawkhurst', a large house adjacent to the Woodley Aerodrome, and these same premises are now occupied by the staff of Harris Lebus Upholstery Works, Nothing came of the visit and Armstrong Whitworth were next contacted at Coventry. They had a machine on the drawing board called the Albemarle. This was part metal part wood, the fuselage being metal, the wings mostly wood.

A development contract was received by HL and it went into production before the prototype had flown. H. Hill, who was in charge of Mechanical Engineers Department, the Furniture Drawing Office and the Jig and Tool Department, was asked to take over the manufacture of this aircraft at H.L.

Germany attacked Poland and on Sunday September 3rd 1939, war was declared.

In the early stages of the War there were many air raid warnings and frequently the entire factory would file out into the trenches. This took some time to accomplish and when the 'All Clear' sounded, more time was spent before people were able to get back to their work. The drill therefore proved quite impracticable both from the point of view of personal safety and waste of war effort. Finally, a large number of reinforced shelters were erected within the Works adjacent to the shops so that people could reach protection quickly and the subterranean shelters were left for the use at night of large numbers of local residents. Electric signs were installed throughout the factory with various colours for 'Alert', 'Take Cover' and 'All Clear', and as time went on, people did not take cover until 'Danger Overhead' buzzers were sounded.

In addition to the individual shelters built for the factory personnel, a small number of reinforced concrete rooms were constructed inside C2 Shop for the use of senior officers on night duty. The rooms acquired the nickname of "Millionaires' Row".

In spite of intensive bombing for sixty odd nights from September 1940, the attendance of employees was most commendably regular and the Firm, in order to ease the burden of those involved in bomb damage to their homes, provided a first aid squad of builders and repairers on top from the Works to help patch up damage.

A great deal had been learned about camouflage since the 1914-18 war and it was realised that it was impossible to hide a factory bounded by a railway, a road and a river with reservoirs nearby, from modern high-flying aircraft.

After an initial period in which the factory was compelled to shut down when darkness fell, a system of block-out with sliding shutters was evolved to reduce the target danger at night and normal hours and shifts were worked throughout the 24 hours. This obviously entailed engaging a greatly increased number of employees until ultimately, there were over five thousand on the payroll. For security purposes every member of the Organization was issued with an H.L. Identity Card bearing the owner's photograph, which had to be produced on entering the factory.

HL was very fortunate since only two small 60 lb bombs were dropped on the Works in the early part of the war, hitting the top of two walls in what is now 22 Shop; it was at night and no-one happened to be working there and the only damage was a shattered roof. On other occasions, during a daylight firebomb raid, the canister fell on the south side of Ferry Lane and 3/400 bombs on the north field above the trenches, thus averting by seconds what might have been a disastrous fire. During the Fire Raids on London in May 1941, a number of incendiary bombs were dropped on Tabernacle Street but, due to the courage and efficiency of the fire watchers on duty, HL premises escaped damage. Towards the end of the war, a fair number of V1 missiles, (commonly called Buzz Bombs) fell in the Tottenham area and on occasion, were seen flying quite low across the south part of the Field, but they usually landed on the west side of the G.E.R. A tragic incident happened when one of the men employed on landing craft being fitted out on the River Lea, watched. While his mates took cover under the armour plating of the craft, a V1 bomb cut-out overhead and dive for the vicinity of his home. He rushed off up the towpath and found that his house had indeed been hit and his wife killed.

Incidental to the manufacture of Albermarle aircraft and the drying up of the manufacture of domestic furniture contracts were received from the **????** for:- Various types of ammunition boxes
Two tier bunks for **????**
Hospital furniture
Stretchers
Tent Poles

Picket Posts

Barrack Room ?????

Cable Drums

Canvas camouflage on wireframes to simulate tanks lorries, etc. used as decoys for ???? fire.

Top management was divided by Louis H. and Louis S. Lebus mainly concerned with production and Herman Lebus chiefly on outside contacts.

Aircraft

The Albemarle had a chequered career. As a result of the introduction of the Stukka dive bomber by the German an attempt was made to modify the Albemarle to do similar work and the wings were lengthened. This was only one of the many modifications which continues throughout the contract. Some were sent to Russia for use on the eastern front but the machine played a very small part in the early days of the war. It ultimately justified itself as a tug for Horsa Gliders in the invasion of Normandy.

The many teething troubles and set backs experienced with this machine made the firm increasingly aware of the necessity to redeploy the whole of the set-up if it was to manufacture aircraft on a large scale. Not only the manufacture and assembly of wooden parts was concerned but there was an enormous amount of preparatory work needed before it reached the manufacturing stage. The Firm already had a Drawing Department, an Engineering Department, a Production Control Department and a Purchase Office and all offices were greatly expanded to deal with this formidable problem. Many of the metal parts were free issue, but hundreds of metal component and fittings were bought outside and HL had to educate the smaller suppliers to manufacture products of the highest quality and accuracy. There was constant liaison with the parent Companies; however, HL staff, with the addition of very few aircraft experts, accumulated enormous know-how and expertise in aircraft manufacture and jig design. The jig and Tool Department eventually grew into such an important function in aircraft manufacture that Hill devoted his whole time to it and H.G. Barnes took over aircraft general management. HL designed many elaborate jigs because it was vital to obtain great accuracy, not only in the construction of aircraft but to ensure reliability and interchangeability in replacement of components. The Chief A.I.D. Officer in charge of interchangeability of all types of airplane components throughout the country, had the highest opinion of Harris Lebus' jiggling and accuracy. So much so that the Firm was asked to produce interchangeability gauges and jig references for the Horse Glider for use by manufacturers in other parts of the country.

As trained engineers in metal, Barnes and Hill were concerned with the highly technical side of aircraft but the actual manufacture of the machines was managed by D.P. Stratton and A.F. Brown. The former, who had previously been responsible for the manufacture in Zone 1 of everything other than aircraft, then took over all aircraft components, including spares, up to the final assembly stage, plus the manufacture of specialised plywood. A.F. Brown, on the other hand, was responsible for the Horsa assembly and the development of certain special items such as canoes and unmanned aircraft.

Herman Lebus, A.E. Lain, Chief Chemist and H.G.H. Barnes became serving members of a Government Committee of Technical Development and HL's opinion and recommendations were eagerly sought and frequently accepted.

Hotspur Glider The next contract to be received was for the Hotspur Glider, a training machine for parachutists. Designed by General Aircraft of ?????, to hold light men, it was made absolutely

complete by HL and ??? were produce. Some went to Canada where an immense training school was established.

Horsa Glider. The Hotspur was followed by a contract for the fuselage of the large Horsa Glider. In order to make this, three open ended field sheds immediately south of the Midland Railway, were enclosed to form one huge workshop. The machine was designed by Airspeed of Portsmouth to accommodate 25 fully equipped troops plus a crew of two or three and such field equipment as motor cycles, jeeps and small field guns.

The fuselage was completely circular, 34f.t. long and 7ft. 5ins in diameter. It was designed on the monocoque principle with wood members and stressed plywood ???, transverse frames and bulkheads and longitudinal stringers. It was originally assembled on one jig as a complete unit but Herman Lebus believed this was a slow method of assembly and suggested to Barnes that it could be simplified and production split up. As a result the fuselage was made in six individual 'barrels' which were butted one against another and bolted together. The whole was covered in ??? and doped and camouflaged in a shop specially built for the purpose on the southern most section of the field sheds.

The interior was fitted by HL with seats for personnel and fixtures for equipment. In the side of the front ??? a flap opened to form a ramp for the exit of ??? and in the rear section a sliding exit door and hock-up for parachutists was provided.

There is no record of the actual number of fuselage that were made at HL but it ran into several hundreds.

It was intended to produce the Horsa Glider in India and two H.L. men, George Nicholson and one other, were sent out to start manufacture at Tartas, and initial work commenced. The Chief Designer from airspeed was also flown out but, Alas! never arrived. The project was dropped and the men returned here.

Mosquito. The more simple type of ??? such as ammunition boxes, stretchers etc. faded out until 90% of the entire factory was employed on the manufacture of aircraft of which, ultimately, in 1942/3, the famous Mosquito became the most important product.

It was designed by DeHavilland and was the fastest aeroplane of any type in operation by any airforce in the world at that time.

It was constructed wholly of wood plus special fastenings and some minor fixtures. With wood it was possible to cut down the initial stages of design and to build prototypes much more quickly than would have been the case had metal been used for its construction. Thus the machine could be put into production rapidly, a matter of prime importance in the circumstances. Also the use of wood avoided causing additional strain on metal supplies and made it possible to employ a class of skilled labour made available by the restricted activities of the woodworking industry.

HL made the fuselage and wings, everything except the tailplane. The machine embodied some remarkably interesting features, chief of which was the use of a plywood and balsa sandwich for the fuselage. This was made in two halves and huge jigs were constructed on which to mould them. Reinforcing pieces of hardwood and bracing ribs stiffened the structure to enable the enormous amount of equipment and electrical wiring etc. to be fitted when completed.

When removed from the jigs, the two halves were glued together and reinforced by plywood over the joints, and the whole covered with madapollam and doped. The use of low voltage heating with gap filling synthetic glue (Beetle) began with this machine.

The overall length of the fuselage was 41ft. 2ins. And the wing span 54ft. 2 ins.

Unlike most machines the two wings formed one continuous component containing spars 54ft. long, constructed entirely of laminated spruce, covered in plywood. Many thousands of wood screws were used to screw the plywood skins of the wings to the spars and ribs.

In addition to making the main components of the machine HL fitted and connected up the highly complicated network of electrical and other mechanisms, including the instruments in the cockpit, and ultimately, Radar Screens. The cockpit had armour plate protection and Perspex nose and hood.

Besides the fuselages completed at HL shells were made at Tottenham for distribution and assembly elsewhere.

In order to give the mosquito greater range, auxiliary petrol tanks, commonly known as Drop Tanks, were fitted. These were constructed entirely of plywood and when the fuel was consumed, they were jettisoned during flight. HL made hundreds of these tanks.

Five Marks of Mosquito were made by HL. Originally, the High Altitude Reconnaissance plane, then Mark II which was a conversion to a fighter. Mark VI, a Fighter Bomber. Mark XIII, equipped for Radar and Mark XVI, an extra heavy Bomber, carrying 1000lb+bombs. There is no record of the numbers produced by HL but it was some hundreds.

At clearly defined stages, all aircraft production had to be passed by Government A.I.D. who had a permanent staff at the factory, and no departure from detailed specifications laid down was permitted without their prior sanction. This applied also to repair work, both at Tottenham and at the various aerodromes when HL personnel were stationed, and to control the procedure, official repair schemes were laid down.

Leading Craft. Towards 'D' Day, the Admiralty were having some difficulty in obtaining the required volume of Landing Craft. These were being made by a number of small ship builders around the country but no-one was producing them in quantity by modern production methods. L.S. Lebus, A. Brown Snr, and C.E. Leaman, who had been chief Maintenance Officer, visited a typical small firm at Portsmouth to gain some firsthand knowledge of the project HL received a contract and proceeded to set up ten ??? on which they turned out about two hundred at a rate of 14 a month, with a team of 90 men and women.

The craft was 38ft. long with keels of prime quality English Oak with one splice so that each section of the keel was 20ft. long 14ins. Wide and 3ins. Thick.

The first fifty were made with 5" x 1/4" mahogany planking crisscrossed at an angle of 45° with a sheet of oiled linen between and 1/4" armour plate bolted through. Later, in order to speed up production, the planking was replaced by 1/4" plywood and the whole painted, camouflaged and numbered. They were powered by two Ford super charged V8 Engines capable of attaining 11 knots carrying a load of 40 men and equipment. The craft were launched on the River Lea and fitted up completely ready for action with the exception of the gun. They were then taken downstream to the Thames at Wapping in charge of Thames Pilot, one of whom went by the excellent seafaring

name of Heyhoe, and handed over to the Admiralty at Cadogan Pier, for trials over a stretch between Westminster and Chelsea.

The launching of the first L.C.A. on the Lea was rather special occasion. Various Brass flats came from the Admiralty and everything was carefully prepared. By some mischance, a few moments before the word go, the mooring rope broke and the craft launched itself suddenly into the river and embedded itself firmly in the opposite bank.

Canoes. Louis S. Lebus and A.F. Brown Jrn. paid a visit to Combined Ops. at Hayling Island to discuss a potential contract for Collapsible Canoes, popularly known as Cockles. These had been produced in somewhat haphazard fashion for the Admiralty but were finally taken over by M.A.P. and used entirely by Combined Ops. under the command of Lord Mountbatten. The canoes were stored and assembled in submarines and launched at night through portholes 29" in diameter. They did Trojan work on secret reconnaissance operations prior to landings in N. Africa and elsewhere.

A book was written after the war by Bill Strutton and Michael Pearson under the title "The Secret Invaders" in which the name of Harris Lebus is mentioned several times. Subsequently a film was produced called "Cockleshell heroes".

While the contract formed a relatively small proportion of the factory activity, the relations with Combined Ops. people, who were most informal in approach, made it especially intriguing. All three services paid frequent visits to the factory and many modifications were made until eventually HL produced a three man, almost unsinkable canoe.

Arising from the many tests that were made is a rather amusing incident, when Combined Ops people wanted to make some loading tests on the spot and bars of lead were taken from the Engineers and loaded into the canoe until the craft was awash. At that moment an S.O.S. was received from the Stores that the lead was urgently required for use on aircraft work. It was salvaged, with some difficulty, in the nick of time.

Paddles were included in the equipment made by HL and the blades were attached, after riveting, with Beetle glue set by R.F. heating. This form of heating was developed by HL and was the beginning of quick glue setting extended to all kinds of operations and ultimately for furniture.

The above describes the main products that were manufactured by HL during the Second World War. An article in a magazine issued in 1945 sum up the nature of HL's war effort as follows:-

On D Day Troops in Horsa Gliders, the fuselages of which were made by H.L., were piloted by pilots trained in Hotspur Gliders, made entirely by H.L., towed by Albemarle machine, the wings and tail planes of which were made by H.L., to make an airborne assault. This was protected by Mosquito Fighters, the fuselages and wings of which were made by H.L., and the landing places were previously softened up by Mosquito Bombers, also made by H.L. Preliminary reconnaissance was made by Mosquitoes, made by H.L., The airborne assault was backed up by Assault Landing Craft, made by H.L., and preliminary reconnaissance of the beaches was carried out from special canoes made almost entirely by HL.

It is not suggested that the entire invasion of Europe was Lebus borne but it is doubtful if there was any Factory of comparable size, not connected with aircraft engineering and allied trades which, at the end of the war, could claim such a splendid record.

In addition there were other projects, one of which was the investigation into a small unmanned aircraft to be jet propelled which, however, did not mature.

Another emanated from Lord Beaverbrook who telephoned Herman Lebus in the middle of the night to say he wished to see him immediately and it transpired that he wanted HL to build a number of dummy Sherman tanks in wood. It was a Top Secret operation. A brick wall was built around a section of KL ground floor and Leaman, in charge of Lending Craft, was called into action. He and a carefully selected number of men were sworn to secrecy and, within the confines of this inner shop, constructed in wood an exact replica of a Sherman tank. It was copied in every detail and at a distance of 100 yards it was almost impossible to differentiate between this and the real thing. In the event, only two or three were built. These were put to very good use later, parading the streets in aid of National Savings.

The Firm took a most active interest in National Savings and became prominent in the local campaigns. In addition, there were drives in aid of the Red Cross, the conservation of material and avoidance of waste, the encouragement of maximum effort and efficiency in production and so on. All this was stimulated by the liveliest propaganda, much of the poster work being produced by local talent. It should be remembered that there were nearly six thousand people on one site, a fact that lent itself readily to these activities and the results were outstanding.

In 1942 Sir Stafford Cripps, Minister of Aircraft Production, initiated Joint Production Committees in industry and came to Tottenham personally to address the first meeting of the J.P.C. at HL. The basic idea behind the creation of these committees was to enable the man on the shop floor to feel better able to make his contribution to the war effort, to facilitate communications between management and men and maintain high morale.

At his time Oliver Littleton, now Lord Chandos, who had been appointed Minister of Production and a member of the War Cabinet, created a panel of prominent industrialists under the chairmanship of Sir Robert Barlow of The Metal Box Company. One of the main objects was to investigate the activities of certain firms, in various parts of the country, to ensure that production was being used to the maximum for the war effort. Herman Lebus served on the panel together with Sir Robert Sinclair, Sir Thomas Spencer, Sir Horman Kipping and others.

As has already been said, from 1939 onwards the efforts and resources of Harris Lebus were wholly devoted to the prosecution of the war. However, the manufacture of furniture in the country did not entirely cease. The minimum needs of the civilian population had to be met. The Industry was concentrated within a bare 150 firms, for three main reasons; the desire to release men for more important work, the shortage of raw materials and the lessening of public demand.

Throughout the war and immediate post war periods a number of committees were set up by the Board of Trade. There was the Advisory Committee, the purpose of which was to design and lay down specifications for Utility Furniture, which furniture was free of purchase Tax and only available for bombed out people and newly weds; the furniture Industry Post War Reconstruction Committee; the Working Party for the Furniture Industry and finally, the Furniture Development Council set up under the Industrial Organization and Development Act of 1947.

In all these activities Herman Lebus played a prominent part, sometimes as chairman, sometimes as a member of committee. He was personal adviser to successive Presidents of the Board of Trade on matters relating to the Furniture Industry and was knighted in 1946 for his outstanding services during the war and for the leadership he displayed in the Industry.

Herman Lebus' two sons, Anthony and Oliver Lebus, served in H.M. Forces during the war. Anthony joined the 36th (Middlesex) A.A. Battalion R.E. (T.A.) in 1937 as 2nd Lieutenant and in 1940 became one of the first Staff Lieutenants at 40th A. A. Brigade Headquarters. He transferred to the Royal Marines in 1941. Oliver was still at Magdalene College, Cambridge at the outbreak of war but left and was commissioned in the Royal Signals in 1939 and went overseas to France almost immediately. He returned to England at the time of Dunkirk and later was in action in Egypt, was promoted to Major and took part in the Italian campaign right up to 1946. They both joined the business after demobilisation and became partners in January 1946.

L.S. Lebus' two sons, John and Peter Lebus, completed their National Service after the war. John was commissioned in the Royal Artillery and stationed in Germany. Peter in the 7th Royal Tanks, served in the Far East. They entered the business after it became a Public Company, John in 1956 and Peter in 1958.

When the war in Europe ended in May 1945, the Firm got well into its stride manufacturing Utility Furniture. The volume of furniture permitted to be made was conditioned by available supplies of raw material. These supplies came under the direction of Timber Control and licences for timber, plywood and veneers were based on a ratio of pre war consumption. This control continued to operate, in diminishing degree, into the 1950's However, manufactures were allowed to augment their licences by reclamation of timber from surplus war material such as ammunition boxes, tent poles etc.

Some of the younger generation of Senior Managers at HL who had assumed very great responsibility during the war, were now promoted to top management. Among them was D.P. Stratton, later to become a member of the Board in the new Company.

In July 1947 a Public Company was floated, Sir Herman becoming Chairman and Managing Director, L.S. Lebus, Assistant Managing Director and Anthony and Oliver Lebus, members of the Board. Louis H. Lebus and S.H. (Bob) Lebus retired, the partnership was dissolved and the family business of Harris Lebus came to an end.

In virtually two generations the business had grown from the smallest beginnings and become by far the largest furniture production unit in the country with 30 acres on the South side of Ferry Lane with a covered floor space of a million square feet and ten acres of land on the north side of Ferry Lane.